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Mental health promotion in children and the elderly during Covid-19

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***Abstract*---** Introduction: The recent Covid-19 pandemic has caused a great deal of stress and anxiety around the world. Changes in lifestyle as a result of the global outbreak of Covid-19 disease have affected children and the elderly along with psychological consequences. The health of children and the elderly is a top priority in all countries. Therefore, the present study was to review the health promotion of children and the elderly during coronavirus disease. Materials and Methods: This is a review using the keywords Covid-19 and health promotion in children to search papers in Sid, Scholar Google, Medline, Science direct and Pubmed databases. The articles from 2008-2020 were extracted according to the inclusion criteria, and the results were classified, summarized and reported. Conclusion: Evaluation of the articles showed an increase in behavioral problems, self-regulation problems, anxiety and fear, problems with adjustment and coping strategies, the experience of abuse and emotional harassment, the severity of mental disorders and depression, and post-traumatic stress as the psychological consequences of the pandemic among children and the elderly. Considering the negative psychological consequences of the Covid-19 outbreak, it is recommended to design and plan intervention and support strategies to reduce the adverse impacts.

***Keywords*---** *health promotion, children, the elderly, coronavirus disease.*

Introduction

Demographic and epidemiological changes highlight the need for care in societies. Further, the philosophy of providing health care now emphasizes promoting

health and preventing disease progression other than disease improvement (1) (2, 3).

Quarantine was first used in Italy following the outbreak of the plague. As a result of medical advances, individuals' isolation for disease prevention has decreased, so it was not used in Canada for half a century. However, the re-use of quarantine was considered necessary following the outbreak of acute respiratory syndrome and the lack of sufficient information on the way the disease was transmitted (4).

Coronaviruses are a large family of viruses that range from the common cold to more severe illnesses such as Middle East Respiratory Syndrome (MERS-CoV) and SeverAcute Respiratory Syndrome (ACS). Common symptoms include fever, cough, shortness of breath, and difficulty breathing. Infection, in more severe cases, may cause pneumonia, acute respiratory syndrome, kidney failure, and even death (5).

Covid-19, or severe acute respiratory syndrome caused by a coronavirus, was first diagnosed in December 2011 in people with a lung infection in Wuhan, China (6).

The World Health Organization (WHO) has identified the coronavirus disease as a major threat to physical and mental health because the outbreak of Covid- 19 has changed daily lives with significant impacts on family lifestyles (7).

According to Gash et al., children are more likely to experience psychological problems during a crisis, especially an epidemic (8). With the outbreak of Covid-19, many centers like schools were closed, social relations were severely curtailed, and outdoor leisure activities were canceled or greatly reduced, leading to confusion and boredom among children. Affecting people's daily behavior, Covid-19 has also led to the spread of worry, depression, fear and chronic anxiety among people, particularly children.

Moreover, quarantine and its association with other factors such as mental illness and parental substance abuse, low socioeconomic status of the family, exposure to domestic violence and lack of opportunities for play and entertainment man severely affect children's mental health at the time of Covid-19 outbreak (9).

On the other hand, disease incidence, among others, may lead to the reflection of disorders like post-traumatic stress disorder and insomnia in children (10).

Children's physical and mental affection for the environment and unpleasant events demands controlling and minimizing destructive factors by better understanding these harmful factors and the role they play in children's lives. In this way, it is possible to intervene in the mental health of children and prevent disorders in adulthood (11).

Children and adolescents react to what they see from the adults around them. If parents and caregivers deal with illness calmly and confidently, they will provide the best support for their children. Answering the child's questions, telling the truth about Covid-19, and assuring health by observing hygiene will help build trust and reduce anxiety in children. Children may misinterpret what they hear

and panic about what they do not understand; therefore, limiting news coverage of the disease through media and social networks is one of the essential measures in the pandemic era (12).

Children's mental health problems not only have individual consequences and costs but can also affect the family and society (13). Therefore, understanding the psychological problems of the Covid-19 outbreak can provide families, professionals and psychologists with the basis for effective prevention, education, intervention and treatment. Also, a systematic review of scientific findings on the psychological consequences of Covid-19 is doubly necessary due to the high epidemic among societies. Hence, the present study reviews scientific findings on the promotion of children's health during the Covid-19 pandemic.

Rapid transmission and spread of coronavirus, which causes acute respiratory syndrome and high mortality rates, may provoke the risk of mental health problems, worsen existing mental disorder symptoms, and impair daily and cognitive function, especially in the elderly (14).

Depression, as one of the most common psychological problems among the elderly, is the most serious reason for their suicide (about 25%) (15).

The coronavirus pandemic, which mainly targets the respiratory system, has recently emerged as the most serious public health threat worldwide. The preset pandemic is called Covid-19, and previous epidemics were known as SARS and Mercer diseases (16).

Method

This is a review of scientific findings on mental health promotion in children and the elderly during the Covid-19 pandemic. Research findings published since the outbreak of Covid-19 (2019 and 2020) in PubMed, Springer, Google Scholar, Science Direct, ProQuest, and Scopus were reviewed using the keywords Covid-19, psychological effects, mental health, social isolation and quarantine, children, and the elderly. The articles were downloaded, and duplicates were removed. Related research was also identified based on the title and abstract. The articles were reviewed based on the inclusion criteria.

Findings

The findings of the research that met the inclusion criteria were carefully reviewed.

Xiao et al. (2020) conducted a study on children's behavioral and emotional disorders during the outbreak of Covid-19. Their results showed that parental attachment, inattention, irritability, worry, fear, obsession, sleep problems, fatigue, and nightmare were the biggest behavioral and emotional problems in children during the pandemic.

Wang et al. (2020) investigated the way to reduce stay-at-home problems among children and showed that children who stay at home experience problems such as weight gain due to inactivity and sleep problems (17).).

Liu et al. (2020) conducted a study on mental health concerns in quarantined children. According to the results, problems such as anxiety, post-traumatic stress, fear and insomnia are common problems during quarantine (18).

Brooks et al. (2020) conducted a review study on citizens, health care workers, and infected and suspected patients in 10 countries. Anxiety and confusion, fear and anger, sadness, low mood, irritability, feeling empty, insomnia, poor concentration, poor job performance, symptoms of acute and post-traumatic stress, depressive symptoms and emotional disorders were identified as the consequences of Covid-19. (19).

Silman and Sprang (2013) conducted a cross-sectional study on 398 parents in the United States and Canada. They reported stress-related mental disorders due to living in areas with SARS and the h1n1 virus (20).

In a study entitled "Attention-Deficit / Hyperactivity Disorder and Covid-19", McGrath (2020) showed that children with attention deficit hyperactivity disorder suffer from problems with physical control, drug use, and group and individual interventions during coronavirus disease (21).

A study by Cox, Plavnick, and Brodhead (2020) entitled "Reducing the problems of Covid-19" reported that children with special needs were more likely to have mental health problems due to communication problems (22).

According to a report from China, the elderly was one of the most vulnerable groups in the world during the coronavirus pandemic (15 to 20% deaths) (23).

Studies show that more than half of people with Covid-19 suffer from underlying diseases like diabetes, hypertension and heart disease, which are much more common in the elderly than in other age groups (24, 25).

Although the separation of the elderly poses a serious public health risk, the elderly in many parts of the world were asked to isolate themselves during the epidemic. Isolation, by reducing social participation and support, increases the risk of mental health disorders among the elderly. In addition, the elderly who live alone undergoes a greater risk for mental disorders, lower quality of life and poor mental well-being. (26).

Therefore, maintaining and improving the psychological well-being of the elderly needs to be taken as a positive social, even economic and cultural step during the pandemic. Most elderly people in Iran are covered by health centers. These centers are a good place for health promotion interventions for the elderly. Due to the lack of a study on the psychological well-being of the elderly during the pandemic in Mashhad, this study addresses the psychological well-being of the elderly in Mashhad during the coronaviruses disease. It was assumed that the higher level of psychological well-being of the elderly is associated with the lack of

chronic diseases, physical activity, living with others, observing the rules of social separation or staying at home. The study aimed to investigate the effect of Covid-19 as a major public health crisis on the mental well-being of the elderly in Mashhad. Some factors affecting the mental well-being of the elderly (e.g., family structure, chronic illness, staying at home and physical activity) were investigated. The results showed that psychological well-being has decreased in more than 70% of the elderly in Mashhad during the pandemic. Consistent with the results of this study, a study in Brazil showed that more than 60% of the elderly had a variety of mental disorders such as anxiety, depression and sleep disorders (27).

Findings of a study in China on more than 50,000 people also indicated that the prevalence of mental health disorders in the elderly (60 years and older) was higher than in other people during the pandemic (28).

According to the results of another epidemiological study in China on 1,556 elderly people, more than 37% of them showed signs of anxiety and depression during the Covid-19 crisis (25).

A study in Hong Kong reported that at the time of the SARS epidemic (a type of coronavirus), the mental well-being of the participants, both elderly and young, had not decreased (29), which is inconsistent with the results of this study. This difference might be due to the lack of supportive social interventions in Iran to promote the mental health of vulnerable groups (e.g., the elderly) at the time of the Covid-19 crisis.

A pre-Covid-19 study that measured the relationship between social support and psychological well-being in the Iranian elderly showed that increasing social support strengthens psychological well-being in the elderly (30).

Another study reported that social support reduces depression and anxiety in the elderly so that their life quality and mental well-being improve as their mental health gets better (31).

According to the findings of a study, during the September 11 attacks in New York, the elderly's mental health was not affected, and they showed high mental resilience that helped them to resist the crisis and maintain mental well-being. This means that in the event of a crisis, the elderly are able to keep their mental and emotional balance and adapt very quickly to the situation in order to avoid the damage caused by the crisis (32), though not in line with the findings of the present study.

Allocating adequate financial and support resources, especially for the elderly, requires attention to preventing mental health disorders and the possible consequences of critical situations. In times of crisis, such as the Covid-19 pandemic, community-based interventions can help individuals cope with the situation and maintain mental balance. Thus, crises do not always end in negative consequences. Proper management and implementation of community-based health interventions not only help control the crisis but also may promote

social solidarity and cohesion, which is a powerful factor for well-being and mental health.

Another research showed that suffering from at least one chronic disease in the elderly contributes to the reduction of mental well-being during the Covid-19 pandemic. The results of another study also indicated that the mental health of the elderly with chronic diseases had decreased during the Sars pandemic. Moreover, the mental health of the elderly with at least three chronic diseases was even worse (31).

An underlying chronic disease aggravates the symptoms of Covid-19, increases the probability of death, intensifies anxiety, and reduces the mental well-being of the elderly. In addition, quarantine to reduce the possibility of infection with the coronavirus was followed by social isolation of the elderly, restricted access to mental health services, and lower levels of mental well-being. This is in line with the results of a study on the elderly conducted in China during the Covid-19 pandemic (25).

Social isolation, especially for sensitive people like the elderly, was one of the strategies adopted to control the Covid-19 pandemic. But, as serious risks to the elderly's healthy, mental harm and consequences of social isolation against the elderly were ignored. Loneliness in the elderly not only affects their well-being and mental and psychological peace but can also lead to irreparable consequences such as suicide. Therefore, supportive social interventions for lessening the feeling of loneliness and enhancing vitality, happiness and entertainment through media and digital technologies can be very effective and useful for the elderly. Meanwhile, during the SARS epidemic, the elderly in Hong Kong were blessed with social interventions such as education and counseling on self-preventive behaviors against SARS to help them effectively adapt to the epidemic event. By promoting a sense of social cohesion among the elderly, the interventions helped the elderly maintain mental and psychological well-being in crisis situations (27).

According to the limitations of the elderly to leave the house, most of them did not have any type of physical activity, which had a significant relationship with psychological well-being. This is consistent with a study on the impact of physical activity on the life quality of the elderly (32). As higher mental well-being may lead to a favorable quality of life, it is possible to improve the elderly's mental well-being by formulating and implementing physical activity programs in crisis and stressful conditions (e.g., the coronavirus pandemic).

Due to the physical disabilities of the elderly, weak immune system, underlying chronic diseases, reduced cognitive abilities, and inability and weakness to receive and process information, the elderly over sixty years old with weak physical conditions were the main victims of Covid-19. The impacts of the pandemic on the physical and mental health of the elderly are very evident (25). Based on the results obtained from this study and from the review of other studies, it is possible to control and maintain mental well-being in critical conditions by focusing on health-affecting social factors with better controllability. However, many people have sufficient peace and mental well-being in crisis situations despite physical problems such as chronic diseases. This is because

they have not suffered from mental health disorders and have been able to adapt themselves to stressful situations (35).

Covid-19 has caused lots of problems for all members of society, especially the elderly. Apart from physical problems, the pandemic has affected the elderly's mental health. This study was conducted to investigate the effect of Covid-19 news on the mental health of the elderly. In the present study, more than three-quarters of the elderly did not have a favorable mental health status. Tehrani et al. (2016) indicated that 64% of the elderly living in Mashhad nursing home had poor mental health (36).

Najafi and colleagues also showed that about half of the elderly studied in Tehran had low mental health (37). However, Rashidi et al. (38), Nabavi et al. (39), Alavi et al., Nakano (41), and Heine and Browning (42) indicated the favorable mental health of the elderly that is different from the results of the present study. It seems that the main reason for the difference in the findings is the time period of conducting this research. The present study was carried out during the covid-19 pandemic when the elderly had to stay home, which is probably the reason for the high prevalence of adverse mental health among the elderly under study. This is because quarantine and isolation of people can cause loneliness and other health problems in the elderly (43) and threaten their mental health. Also, since about half of the studied population was covered by centers that were providing face-to-face services and collective programs before the pandemic, their mental health has been challenged by changes in conditions.

In another study, no significant relationship was observed between the mental health of the elderly and marriage and gender. This result was consistent with the study of Tehrani et al. (36), Najafi et al. (37) and Dragest et al. (44). However, Alavi et al. showed that gender is one of the factors predicting the mental health of the elderly, so women had lower mental health than men (40). In general, the literature on gender differences in the mental health of the elderly provides a variety of results, which may be due to the cultural differences of the studied societies. In the present study, similar to the results of Tehrani et al. (36), a significant relationship was reported between income and mental health. It was also reported that the fear of economic losses is one of the sources of stress and mental health disorder (45).

Good job and job security is associated with good mental health in the elderly, so a good job can provide greater independence and security for them and their families by guaranteeing better physical and mental health.

In a study, more than three-quarters of the elderly were following the news of Covid-19 from the media. Our findings showed that following the news continuously and regularly through the media leads to worse mental health. Accordingly, avoiding continuous follow-up of Covid-19 news is considered a protective factor against adverse mental health in the era of Covid-19.

Gano and colleagues also indicated a significant relationship between media use frequency and mental health problems (e.g., depression and anxiety) during the

outbreak of Covid-19 (46). In general, in the current pandemic conditions, anxiety, worry and fear may endanger the elderly's mental health (47 and 48).

According to studies, an outbreak of diseases in the form of an epidemic or pandemic arise the prevalence of mental disorders such as depression and anxiety, which can be aggravated by the spread of various and wide information (46 and 49).

Inclusion and exclusion criteria: The studies included in the research use keywords directly addressing the impact of Covid-19 spread on children and the elderly. The articles have been published in English in authoritative Journals from 2008 to 2020. The articles without available full text and those not addressing psychological consequences of Covid-19 in children and the elderly were excluded from the study.

Discussion and conclusion:

This study aimed to review the health promotion of children and the elderly at the time of the coronavirus pandemic. The results showed that the spread of Covid-19 can be associated with psychological problems for children and the elderly.

Today's children and teenagers are global citizens, powerful agents of change, and the future generation of caregivers, scientists and doctors. Every crisis is an opportunity to help them practice kindness and compassion, build resilience, and ultimately build a safer, more caring society. Having the correct information about Covid-19 helps to eliminate students' fear and worries about the disease and prepares them to deal with any secondary consequences of the disease in their lives.

People’s mental health, particularly children's, is any society's critical priority. Therefore, it is curtail to identify and investigate the factors affecting their mental health (50).

Since the elderly have a vulnerable immune system and often suffer from chronic diseases, they are more susceptible to infectious diseases than other people. As a result, the probability of death among the elderly, especially those with chronic diseases, is higher. Therefore, conditions like the coronavirus crisis can increase fear and stress among the elderly. During the Covid-19 pandemic, the elderly need protection from possible complications due to the weak immune system, and they must overcome many problems caused by the psychological aspects of such a crisis. Hence, health professionals should pay more attention to their mental health.

In the event of a major public health crisis, attention to social support has a great deal of importance as it is an economic and cheap resource to deal with anxiety and depression as well as to improve the elderly's life quality and mental well-being.

Now that the elderly have to spend most of their time at home and their physical and sports activities and social interactions have decreased, virtual

communication technologies may help to maintain and improve their mental health, well-being, and social solidarity through virtual interpersonal relationships. As mentioned before, informal social activities (e.g., communication with friends and relatives) have a greater effect on the psychological well-being of the elderly than formal social and individual activities. Using virtual space, it is also possible to provide the elderly with psychological counseling, educational interventions for a healthy lifestyle, and training to do physical activities at home.

Such methods need examination in terms of safety and efficiency. In addition, the methods have to be used based on people's access to digital technologies and access to skilled and trained human resources for implementation. Safe virtual communication facilities for the elderly can be provided by benefactors, interested organizations and bodies, and government support. In this way, social solidarity is maintained or developed among the elderly, their stress and anxiety decrease, and their psychological well-being increase through happy and entertaining programs.

Since there is limited documentation about the effectiveness of such methods in the care of the elderly's mental health during crises, more studies must be conducted to determine their effectiveness for various populations.

Overall, quarantine has long-term impacts on mental health. Regardless of risk factors, quarantine brings about many negative psychological impacts during and after the quarantine. However, non-implementation of quarantine leads to the spread of the disease. Quarantine requires the attention of policymakers. Officials must ensure that people can tolerate quarantine based on predictive variables such as the previous history of mental distress and other crises in the country. They must clearly explain the disease and its prevalence and clarify the necessity of implementing quarantine and its benefits by stimulating a sense of altruism. Public health officials should emphasize the altruism of self-imposed quarantine. They must prepare a protocol, specify the start and end of the quarantine with the exact duration, ad state the actions during the quarantine. Officials and managers have to keep necessary and urgent communication with the people and provide them with the necessary basic supplies (general and medical).

The current research has some limitations: limitation in access to the full text of some articles, which led to the exclusion of many papers. On the other hand, some of the reviewed papers are descriptive studies, which demands caution in generalizing the results.

As the study showed evidence for the association of Covid-19 with psychological consequences for children and the elderly, more investigations are recommended to cope with the psychological problems and to design effective interventions and practical strategies. Longitudinal and cohort studies with a large sample size are also recommended in order to investigate the effects of media on the mental health of the elderly.

Recommendations for supporting children and the elderly:

Children are one of the vulnerable groups during the Covid-19 pandemic. Since any change is anxiety-provoking for the child, it is necessary to plan the child's daily programs and homework as it was before the pandemic. Children without a schedule undergo anxiety, hyperactivity and aggression. Therefore, they should be provided with a daily schedule in which the time for doing homework, eating, sleeping, resting and playing is clearly defined (51).

In the case of the need for separation from the parents (infected or suspected children), the substitute caregiver must provide adequate support, and the child must communicate with his parents at least twice a day through social networks. In addition, drawing and playing may help the child to express negative emotions like fear and sadness (52).

Continue schools to operate safely (See the "School Environment Safety Checklist" below). Develop plans to manage schools and continue education in crisis situations or update the existing plans. Consult with authorities to ensure that schools are not used as treatment units, shelters, etc. Based on your assessment of risk level, cancel any public events/meetings that would normally be held in the school environment. Emphasize frequent hand washing and hygiene and provide school hygiene items. Prepare stations for hand washing with water and soap. Provide hand sanitizer gel and solution in all classrooms, entrances and exits, and near the dining room and restrooms, if possible. Clean and disinfect the surfaces that are touched by many people (fences, dining tables, sports equipment, door and window handles, toys, educational aids, etc.) at least once a day. Follow social distancing principles (e.g., arrange the start and end time of the school in such a way as to avoid the simultaneous movement of students and crowding). Cancel the meetings, sports games and other events that cause gathering and crowding. If possible, set the students' desks at least one meter apart from each other. Teach students to maintain distance and avoid unnecessary physical contact; be a good role model for them (53).

The media is the main source of information transmission during the pandemic (54). Dissemination of false information and rumors through the media, especially virtual media, plays an important role in the information flow. Also, the dissemination of a large amount of information about the disease has faced society with an information flood (55). Such a condition may reduce people’s mental health (56).

The influence of the media on society is undeniable in today's world, so some individuals adjust their judgments, behaviors and performance based on the media content. Therefore, it can be said that there is a close relationship between media and mental health. It also seems that many people, especially the elderly, have a lot of free time to spend a large part of their time following the news of the media; they have a sense of high trust in the content produced by the media. They even believe that the media content is properly monitored. This is important due to the fact that in crises like the Covid-19 pandemic, the abundance of destructive and contradictive media content has damaged the efforts of the health system in the direction of disease prevention and treatment. Accordingly, media

managers should care about the content and its effects, considering the principle of news and content gatekeeping. In addition, efforts should be made to vaccinate people about dealing with the media and what they receive as news and content by raising the level of media literacy so that they can correctly analyze the news and the areas it covers. During the Covid-19 pandemic, based on our findings, the elderly's mental health is affected by the type and extent of using different media. Therefore, it is suggested that the elderly, while increasing their media literacy, avoid continuously following the news on Covid-19 as much as possible, especially the news from unreliable sources. In other words, they should get information from reliable sources and share it after ensuring the authenticity of the received content. They should also focus more on information about disease prevention and the way to cope with staying at home in order to improve mental health. Media managers and policymakers need to monitor and review the content produced in the context of Covid-19 regarding the role of content in mental health, especially for the elderly.

Ethical considerations:

All ethical considerations were observed when presenting results from the literature (including source citation).

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